

## How Hospital Resource Utilization Affects Nurses' Turnover Intentions: A Meta – Analysis

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### **Abstract:**

**Background:** turnover is a widespread and costly problem within the healthcare industry in both Arab and non-Arab countries. It decreases customer satisfaction, future revenue growth, productivity and profitability. Integrating research findings across studies is necessary to identify the most important causal factors so interventions aimed at reducing turnover in the healthcare field can be properly targeted.

**Aim:** The present research aimed to explore the impact of the inappropriate utilization of hospital resources on nurse's turnover intentions in Arab as well as non- Arab countries using a meta-analysis.

**Methodology:** The literature search covered articles that had been published from 1971 to 2010. The electronic portion of the search covered eight computer databases. A set of inclusion criteria were established to retain 118 studies with unique samples given for the purpose of the current meta-analysis. Three graduate students were trained to code, review the databases and data entry processes. After training, coding disagreements and discrepancies were resolved through consensus among coders and authors. Agreement among raters was 92%.

**Results:** the relationship between age and the turnover intention for the organization is stable between studies done in Arab and non-Arab countries, as the confidence intervals overlapped. Location did appear to be a moderator with regards to some of the other attitudinal reactions. First, the relationship between job satisfaction and turnover intentions for an organization were stronger in the Arab countries than non-Arab countries. However, the opposite appears to be true for satisfaction with pay. Estimates indicate that affective commitment has a stronger relationship with the intent to turnover for an organization for the studies done in non-Arab countries than for those in Arab countries. However, the data indicate the opposite for organizational commitment, with this relationship being stronger for Arab countries than for non-Arab countries.

**Conclusion:** job satisfaction and general organizational commitment are the strongest predictors of turnover intention. For the most part, people who experience dissatisfaction and are less committed to their organization are more likely to consider alternative employment as well as be more likely to voluntarily leave the organization.

**Recommendations (practical implications):** Managers need to monitor the morale and commitment of their team members. Many factors are likely to have an impact on both satisfaction and commitment levels. Role states such as ambiguity, job strain, and burnout are likely to decrease both satisfaction and commitment. Therefore, managers should make efforts to clearly define work roles for employees.

**Keywords:** Antecedents, Arab Countries, Healthcare, Human Resources Management, Turnover Intention

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### I. Introduction

The healthcare field in Arab as well as non-Arab- countries is currently experiencing a growing shortage of professionals (e.g., nurses, physicians), placing priority on retention and turnover research. Several factors are contributing to these shortages. First, the number of available jobs in the healthcare field in Arab countries is expected to grow faster than the available jobs in other industries over the next decade (Bureau of Labor Statistics, 2010). Related to this issue, older workers from the baby boomer generation are starting to retire, which is causing problems associated

with knowledge and skill transfer (Buerhaus, 2008). High turnover rates have been linked to decreased customer satisfaction (Koys, 2001), future revenue growth (Baron, et al., 2001), productivity (Huselid, 1995), and profitability (Glebbeck & Bax, 2004). This suggests that there will be an increased need for organizations to focus on retaining healthcare workers, and thus a need for further exploration into the causes of staff turnover. Determining the various antecedents to employee turnover has been a primary emphasis of previous research (Griffeth, Hom, & Gaertner, 2000).

## **II. The Present Study**

The purpose of the present research is, broadly, to explore the impact of the inappropriate utilization of hospital resources on nurse's turnover intentions in Arab as well as non-Arab countries using a meta-analysis. The hope is that this research will reveal the relative importance of various factors related to employment in the healthcare field and shed light on factors that may have been neglected in previous researches. The decision to study this population is important for several reasons. First, there may be certain characteristics of healthcare work that are similar to, and different from, other industries in terms of retaining a qualified workforce, and it is important that research be used to identify these characteristics. Second, turnover is a widespread and costly problem within the healthcare industry (e.g., Waldman, Kelly, Arora, & Smith, 2004), and integrating research findings across studies is necessary to identify the most important causal factors so interventions aimed at reducing turnover in the healthcare field can be properly targeted.

The distal antecedents of turnover include personal characteristics, role states, job characteristics, group/leader relations, and organizational/environmental perceptions, as described above. Stemming from these antecedents are the proximal antecedents of attitudinal reactions (e.g., job satisfaction, commitment). These attitudinal reactions are hypothesized to result in turnover cognitions and turnover intentions, which are then expected to result in actual employee turnover. It should be noted that the ability to test the herewith hypothesized model was dependent on the availability of primary research studies examining the relationships between the various predictors and turnover-related outcomes.

## **III. Methods**

### **Literature Search**

The literature search covered articles that had been published from 1971 to 2010. The electronic portion of the search covered eight computer databases (CINAHL, MEDLINE, PsycINFO, SocINDEX, ERIC, Health Source: Nursing/Academic Edition, PubMed, and Dissertation Abstracts). Additionally, researchers visited the academic and public libraries in an attempt to find relevant unpublished data. Authors who published manuscripts without relevant effect sizes were also contacted to capture more data. The initial search resulted in approximately 6,325 English language citations. Based on the inclusion criteria, 118 studies with unique samples were retained (**Appendix 1: included studies**).

### **Inclusion Criteria**

A set of rules was established to determine whether a given study would be retained given the purpose of the current meta-analysis. First, the study must have been conducted in a healthcare environment in an Arab or non-Arab country. The taxonomy of healthcare environments include ambulatory healthcare services, hospitals, nursing and residential care facilities, and home healthcare services. Second, all participants in the study needed to be directly responsible for providing healthcare to patients. The taxonomy of healthcare positions included nurses, and other healthcare team members, such as therapists, physicians and surgeons, assistants/aides, emergency medical technicians, and paramedics.

### **Coding Of Studies**

Three graduate students in a Nursing Administration Master Program, who are familiar with the turnover literature, coded all of the studies. All graduate students were involved in a training program that was designed specifically for this meta-analysis. During the training, the coders were exposed to the database and data entry process. Construct definitions were also provided, and each

construct was discussed individually. At the end of training, all three graduate students practiced coding a sample article. Problems and discrepancies stemming from the practice article were discussed and resolved to achieve a consensus. After training, coding disagreements and discrepancies were resolved through consensus meetings. Agreement among raters before consensus for the entire set of articles across all decision points was 92%.

**Analysis**

The full database of potential constructs included 62 variables generated from theory and previous researches (Table 1). Some researchers have also corrected for turnover base rates in their meta-analyses (e.g., Tett & Meyer, 1993); however, Williams (1990) has argued against this correction, as turnover may be considered a natural dichotomy, and differences across studies in the turnover rate may be due to true sources of variation. Additionally, 90% credibility intervals were also computed to detect the presence of potential moderators.

**Moderator Analysis**

To explore the data further, tests of potential moderating effects were also conducted. Several suggestions have been provided by Hunter and Schmidt (2004) to determine whether moderators are present. First, if the 90% credibility interval reveals a large range of possible effects after correcting for artifacts, a search for potential moderating variables is justified. Secondly, Hunter and Schmidt offer a 75% rule of thumb for moderator detection, where if 75% or more of the variance in effect size is due to artifacts, then the remaining 25% is also assumed to be due to artifacts for which no correction has been made, rather than to a potential moderator. Attempts were made to code for several study characteristics categorically, including healthcare position, work environment, and work location (i.e., Arab countries Vs. Non-Arab countries). Non-overlapping confidence intervals were used to determine significant differences between subgroups.

**Table 1: Variables coded in the meta-analysis**

Personal Characteristics	Age	Openness
	Agreeableness	Organizational Tenure
	Conscientiousness	Position Tenure
	Education	Professional Tenure
	Extraversion	Salary
	General Cognitive Ability	Sex
	Information Seeking	Training
	Marital Status	Work Ethics
	Neuroticism	
	Role States	Job Strain
Role Ambiguity		Role Overload
Work-family Conflict		
Job Characteristics	Contingent Status	Network Centrality
	Full-/Part-Time Status	Organization Size
	Job Challenge	Procedural Justice
	Job Complexity	Recognition
	Job Control	Rewards
	Job Demands	Skill Variety
	Job Embeddedness	Task Autonomy
	Job Level	Work Schedule
Group/Leader Relations	Job Scope	
	Bullying	Mentoring
	Coworkers Intending to Leave	Participative Leadership
	Group Cohesiveness	Perceptions of Leader Support
	Leader Communication	Perceptions of Team Support
	Leader Consideration	Task Interdependence
Perceptions of the Organization	Leader Initiating Structure	
	Employment Outlook	Perceived Organizational Support
	Job Insecurity	Person-Organization Fit
	Organization Climate	Psychological Contract
	Organization Politics	Socialization Tactics
	Patient Aggression	Staffing Shortages
	Perceived Job Alternatives	Trust

IV. Results

Meta-Analysis

Turnover Cognitions.

The relationships between turnover cognitions and the other study variables are presented in **Table 2**. Turnover cognitions share a positive relationship with age ( $\rho = 0.09$ ). However, organizational tenure is not related to turnover cognitions ( $\rho = 0.06$ ). Role states, including job strain ( $\rho = 0.42$ ) and role overload ( $\rho = 0.11$ ), are both positively associated with turnover cognitions. In addition, organizational/environmental perceptions, as indicated by perceived job alternatives ( $\rho = 0.18$ ), are positively related to turnover cognitions. Several attitudinal reactions share a negative relationship with turnover cognitions, including job satisfaction ( $\rho = -0.49$ ), satisfaction with pay ( $\rho = -0.33$ ), satisfaction with promotion ( $\rho = -0.27$ ), satisfaction with supervision ( $\rho = -0.27$ ), satisfaction with coworkers ( $\rho = -0.22$ ), satisfaction with work ( $\rho = -0.32$ ), and organizational commitment ( $\rho = -0.48$ ).

Surprisingly, estimates suggest that affective commitment is positively related to turnover cognitions ( $\rho = 0.09$ ). However, this finding should be interpreted with caution, as the finding was based on data from only two primary studies. As a group, attitudinal reactions are the strongest predictor of turnover cognitions compared to the other predictor categories. Last, turnover cognitions are positively linked to the other turnover criteria, including the intention to leave an organization ( $\rho = 0.68$ ) and voluntary turnover ( $\rho = 0.40$ ).

Intent To Search.

The relationships between the intent to search and the other study variables for which data were available are presented in **Table 3** and are organized by category. Several findings are worth noting. Neither of the personal characteristics, age ( $\rho = 0.03$ ) and organizational tenure ( $\rho = -0.01$ ), is related to the intent to search. The organizational/environmental characteristic perceived job alternatives is positively associated with the intent to search ( $\rho = 0.10$ ).

The intent to search is negatively related to attitudinal reactions (i.e., job satisfaction, ( $\rho = -0.58$ ), satisfaction with supervisor, ( $\rho = -0.38$ ), and organizational commitment ( $\rho = -0.62$ ). Results suggest that attitudinal reactions, compared to the other predictors, share the strongest relationships with the intent to search. Last, the intent to search and the other turnover variables as a group have the strongest correlations with each other. More specifically, estimates indicate that turnover cognitions ( $\rho = 0.65$ ), the intention to leave an organization ( $\rho = 0.58$ ), job search behaviors ( $\rho = 0.71$ ), and voluntary turnover ( $\rho = 0.56$ ) are all positively linked to the intent to search.

**Table 2: Meta-Analysis Results of Turnover Cognitions**

	90% CV		95% CI		SD <sub>p</sub>	% var.	L	U	L	U
	K	N	$\bar{r}$	$\rho$						
<b>Individual Characteristics</b>										
Age	4	1159	.08	.09	.19	11	-0.23	.41	.03	.15
Organizational Tenure	4	1159	.05	.06	.13	22	-0.15	.27	.00	.12
<b>Role Status</b>										
Job Strain	2	1297	.37	.42	.06	34	.33	.52	.38	.47
Role Overload	2	1749	.09	.11	.18	5	-0.20	.41	.06	.15
<b>Org./Environment Perceptions</b>										
Perceived Job Alternatives	4	805	.17	.18	.33	5	-0.36	.72	.11	.25
<b>Attitudinal Reactions</b>										
Job Satisfaction	10	2639	-0.41	-0.49	.27	5	-0.94	-0.04	-0.52	-0.46
Satisfaction w/pay <sup>a</sup>	2	311	-0.33	-0.33	.05	70	-0.41	-0.25	-0.43	-0.23
Satisfaction w/promotion <sup>a</sup>	2	311	-0.27	-0.27	.09	43	-0.41	-0.12	-0.37	-0.16
Satisfaction w/supervision	3	491	-0.23	-0.27	.00	100	-0.27	-0.27	-0.35	-0.18
Satisfaction w/coworkers <sup>a</sup>	2	311	-0.22	-0.22	.00	100	-0.22	-0.22	-0.32	-0.11
Satisfaction w/work <sup>a</sup>	2	311	-0.32	-0.32	.09	40	-0.46	-0.17	-0.42	-0.22
Affective Commitment	2	799	.08	.09	.28	4	-0.38	.56	.02	.16
Organizational Commitment	5	1849	-0.43	-0.48	.18	7	-0.78	-0.18	-0.52	-0.44
<b>Turnover</b>										
Intention to Quit (Org.)	7	1841	.58	.68	.17	8	.39	.94	.64	.69
Voluntary Turnover	10	2227	.37	.40	.17	13	.12	.67	.36	.43

Note: k=number of studies. N=number of participants.  $\bar{r}$ =sample-weighted mean correlation. p=estimate of the population correlation corrected for unreliability in the predictor and criterion.  $SD_p$ = standard deviation of the corrected correlation. % Var. = percentage of variance explained by artifacts. 90% CV=90% credibility value (L=Lower, U= Upper). 95% CI=95% confidence interval (L=Lower, U=Upper). <sup>a</sup>= statistics are based on the corrections for sampling error only.

**Table 3: Meta-analysis results for the intent to search**

	90% CV		95% CI		$SD_p$	% var.	L	U	L	U
	K	N	$\bar{r}$	p						
<b>Individual Characteristics</b>										
Age <sup>a</sup>	2	835	.03	.03	.22	22	-0.33	.39	-0.03	.10
Organizational Tenure <sup>a</sup>	2	835	-0.01	-0.01	.16	9	-0.27	.24	-0.08	.06
<b>Org./Environment Perceptions</b>										
Perceived Job Alternatives	3	648	0.09	.10	.03	82	.04	.15	.02	.17
<b>Attitudinal Reactions</b>										
Job Satisfaction	4	819	-0.49	-0.58	.12	21	-0.78	-0.38	-0.63	-0.54
Satisfaction w/Supervision	2	383	-0.33	-0.38	.00	100	-0.38	-0.38	-0.47	-0.29
Organizational Commitment	2	433	-0.54	-0.62	.12	17	-0.82	-0.43	-0.68	-0.57
<b>Turnover</b>										
Turnover Cognitions	6	1704	.58	.65	.18	6	.36	.94	.62	.67
Intention to Quit (Org.)	5	1524	.51	.58	.32	2	.04	.99	.55	.61
Job Search Behaviors	2	436	.64	.71	.02	86	.68	.74	.67	.76
Voluntary Turnover	5	1524	.53	.56	.25	3	.14	.97	.52	.59

Note: k=number of studies. N=number of participants.  $\bar{r}$ =sample-weighted mean correlation. p=estimate of the population correlation corrected for unreliability in the predictor and criterion.  $SD_p$ = standard deviation of the corrected correlation. % Var. = percentage of variance explained by artifacts. 90% CV=90% credibility value (L=Lower, U= Upper). 95% CI=95% confidence interval (L=Lower, U=Upper). <sup>a</sup>= statistics are based on the corrections for sampling error only.

**Job Search Behaviors.**

The estimates of the relationships between job search behaviors and the other study variables are listed in **Table 4**. For the personal characteristics, neither age ( $\rho = -0.04$ ) nor organizational tenure ( $\rho = -0.01$ ) is related to job search behaviors. On the other hand, salary has a positive relationship with job search behaviors ( $\rho = 0.12$ ). Estimates indicate that job search behaviors are positively related to role states, including role ambiguity ( $\rho = 0.21$ ) and role conflict ( $\rho = 0.31$ ). Organizational/environmental perceptions, indicated by perceived job alternatives, are also positively related to job search behaviors ( $\rho = 0.32$ ). Several attitudinal reactions are inversely related to job search behaviors, including job satisfaction ( $\rho = -0.51$ ), organizational commitment ( $\rho = -0.39$ ), affective commitment ( $\rho = -0.31$ ), continuance commitment ( $\rho = -0.12$ ), and normative commitment ( $\rho = -0.23$ ). Attitudinal reactions are the strongest predictor of job search behaviors compared to the other predictor categories. Last, job search behaviors are positively linked to the other turnover criteria, including turnover cognitions ( $\rho = 0.69$ ), the intention to leave an organization ( $\rho = 0.50$ ), and voluntary turnover ( $\rho = 0.31$ ).

**Turnover Intentions (Organization).**

In relation to the estimates of the relationships between the intention to turnover from an organization and the other study variables, several personal characteristics are negatively related to the intention to leave an organization, including age ( $\rho = -0.08$ ), profession tenure ( $\rho = -0.17$ ), and position tenure ( $\rho = -0.07$ ). In addition, the results suggest that men were more likely to have intentions to leave their organization than were women ( $\rho = 0.08$ ). Other personal characteristics do not appear to be related to the intention to leave an organization, including organizational tenure ( $\rho = 0.00$ ) and salary ( $\rho = 0.01$ ). In addition, the intention to turnover from an organization has a positive relationship with several role states, including job strain ( $\rho = 0.37$ ), emotional exhaustion ( $\rho = 0.48$ ), depersonalization ( $\rho = 0.54$ ), role overload ( $\rho = 0.18$ ), role ambiguity ( $\rho = 0.26$ ), and role conflict ( $\rho = 0.29$ ).

In contrast, personal accomplishment ( $\rho = -0.36$ ), positive mental health ( $\rho = -0.44$ ), and positive physical health ( $\rho = -0.23$ ) were negatively related to the intention to turnover from an organization. Several job characteristics are negatively related to the intent to turnover from an organization, including task autonomy ( $\rho = -0.29$ ), job control ( $\rho = -0.25$ ), job embeddedness ( $\rho = -0.40$ ), job demands ( $\rho = -0.21$ ), procedural justice ( $\rho = -0.40$ ), and recognition ( $\rho = -0.24$ ). Of note,

neither full-time status ( $\rho = -0.03$ ) nor network centrality( $\rho = 0.04$ ) is related to intentions to leave an organization. Additionally, several group/leader relations are negatively related to intentions to leave an organization, including perceived leader support ( $\rho = -0.34$ ), perceived team support ( $\rho = -0.31$ ), group cohesiveness ( $\rho = -0.23$ ), and participative leadership ( $\rho = -0.25$ ).

The results indicate that both positive and negative relationships exist between organizational/environmental perceptions and the turnover intention from an organization. More specifically, perceived job alternatives ( $\rho = 0.21$ ) and job insecurity ( $\rho = 0.30$ ) are positively linked to the turnover intentions from an organization. On the other hand, perceived organizational support ( $\rho = -0.39$ ) and Person-Organization fit ( $\rho = -0.39$ ) are inversely related to the intention to leave an organization. The strongest group of predictors for the turnover intention from an organization is attitudinal reactions. Job satisfaction ( $\rho = -0.57$ ), satisfaction with pay ( $\rho = -0.27$ ), satisfaction with promotion ( $\rho = -0.30$ ), satisfaction with supervision ( $\rho = -0.33$ ), satisfaction with coworkers ( $\rho = -0.32$ ), satisfaction with work ( $\rho = -0.44$ ), affective commitment ( $\rho = -0.51$ ), normative commitment ( $\rho = -0.34$ ), occupational commitment ( $\rho = -0.37$ ), organizational commitment ( $\rho = -0.54$ ), job involvement ( $\rho = -0.35$ ), employee engagement ( $\rho = -0.48$ ), intrinsic motivation ( $\rho = -0.38$ ), and extrinsic motivation ( $\rho = -0.47$ ) are all negatively related to the turnover intention from an organization. Surprisingly, continuance commitment has a positive ( $\rho = 0.06$ ), albeit small, relationship with the turnover intention from an organization. As a group, attitudinal reactions are the strongest predictors of the turnover intention from an organization. Last, estimates indicate that the turnover intention is positively associated with the other turnover criteria, including the intention to leave the healthcare field ( $\rho = 0.57$ ) and voluntary turnover ( $\rho = 0.32$ ).

**Table 4:** Meta-analysis results of job search behaviors

	K	N	$\bar{r}$	p	SD <sub>p</sub>	% var.	90% CV		95% CI	
							L	U	L	U
<b>Personal Characteristics</b>										
Age	2	324	-0.03	-0.04	.05	77	-0.11	.04	-0.14	.07
Organizational Tenure <sup>a</sup>	2	835	-0.01	-0.01	.16	9	-0.27	.24	-0.08	.06
Salary	2	324	.12	.12	.13	31	-0.08	.33	.02	.23
<b>Role States</b>										
Role Ambiguity	2	202	.16	.21	.00	100	.21	.21	.07	.34
Role Conflict	2	202	.25	.31	.00	100	.31	.31	.18	.40
<b>Org./Environment Perceptions</b>										
Perceived Job Alternatives	3	557	.28	.32	.37	5	-0.28	.92	.25	-0.40
<b>Attitudinal Reactions</b>										
Job Satisfaction	6	1062	-0.44	-0.51	.26	7	-0.94	-0.08	-0.55	-0.46
Organizational Commitment	2	365	-0.33	-0.39	.00	100	-0.33	-0.33	-0.47	-0.30
Affective Commitment	2	496	-0.27	-0.31	.07	47	-0.43	-0.19	-0.39	-0.23
Continuance Commitment	2	496	-0.10	-0.12	.00	100	-0.12	-0.12	-0.21	-0.03
Normative Commitment	2	496	-0.20	-0.23	.00	100	-0.23	-0.23	-0.31	-0.14
<b>Turnover</b>										
Turnover Cognitions	4	722	.60	.69	.37	2	.08	.99	.65	.73
Intention to Quit (Org.)	4	932	.50	.50	.12	18	.30	.71	.46	.55
Voluntary Turnover	6	1062	.31	.31	.06	61	.21	.40	.25	.36

Note: k=number of studies. N=number of participants.  $\bar{r}$ =sample-weighted mean correlation. p=estimate of the population correlation corrected for unreliability in the predictor and criterion. SD<sub>p</sub>= standard deviation of the corrected correlation. % Var. = percentage of variance explained by artifacts. 90% CV=90% credibility value (L=Lower, U= Upper). 95% CI=95% confidence interval (L=Lower, U=Upper). <sup>a</sup>= statistics are based on the corrections for sampling error only.

**Turnover Intentions (Healthcare):**

The relationship between turnover intentions from the health care field and personal characteristics; the results revealed weak relationship between turnover intentions from the health care field and age ( $\rho = -0.04$ ) and organizational tenure being unrelated ( $\rho = 0.02$ ). The role state of job strain has a positive relationship with the intention to leave the healthcare field ( $\rho = 0.35$ ). The results show that group/leader relations are negatively associated with the intention to leave the healthcare field, as indicated by perceived leader support ( $\rho = -0.21$ ), perceived team support ( $\rho = -0.11$ ), and perceived organizational support ( $\rho = -0.62$ ). Last, several attitudinal reactions are inversely related to the intentions to leave the healthcare field, including job satisfaction ( $\rho = -0.40$ ), satisfaction with pay

( $\rho = -0.26$ ), satisfaction with promotion ( $\rho = -0.40$ ), satisfaction with supervision ( $\rho = -0.22$ ), satisfaction with coworkers ( $\rho = -0.37$ ), satisfaction with work ( $\rho = -0.62$ ), affective commitment ( $\rho = -0.56$ ), normative commitment ( $\rho = -0.39$ ), occupational commitment ( $\rho = -0.54$ ), and organizational commitment ( $\rho = -0.50$ ). Estimates indicate that continuance commitment is not related to the intention to leave the healthcare field ( $\rho = 0.02$ ). As a group, attitudinal reactions have the strongest relationships with the intention to leave the healthcare field.

### **Voluntary Turnover.**

For the estimated relationships between voluntary turnover and the other study variables. Some personal characteristics have a negative relationship with voluntary turnover, including age ( $\rho = -0.13$ ), organizational tenure ( $\rho = -0.14$ ), and position tenure ( $\rho = -0.12$ ). On the other hand, sex ( $\rho = 0.00$ ) and salary ( $\rho = 0.02$ ) are not related to voluntary turnover. Role ambiguity ( $\rho = 0.13$ ) is the only role state that is positively linked to turnover. Estimates suggest that both job strain ( $\rho = 0.04$ ) and role overload ( $\rho = -0.01$ ) are unrelated to voluntary turnover. A couple of job characteristics are negatively related to turnover, including task autonomy ( $\rho = -0.11$ ) and network centrality ( $\rho = -0.23$ ). On the other hand, the job characteristics, full-time status ( $\rho = -0.04$ ) and the size of an organization ( $\rho = -0.06$ ) are unrelated to voluntary turnover. Neither of the group/leader relations variables that had sufficient data appear to be related to turnover (perceived leader support ( $\rho = -0.04$ ) and perceived team support ( $\rho = 0.05$ )).

In contrast, the organizational/environmental perception of perceived job alternatives is positively associated with actual turnover ( $\rho = 0.10$ ). Last, several attitudinal reactions are inversely associated with voluntary turnover, including job satisfaction ( $\rho = -0.16$ ), satisfaction with pay ( $\rho = -0.08$ ), satisfaction with promotion ( $\rho = -0.11$ ), satisfaction with coworkers ( $\rho = -0.14$ ), satisfaction with work ( $\rho = -0.16$ ), occupational commitment ( $\rho = -0.12$ ), organizational commitment ( $\rho = -0.17$ ), and job involvement ( $\rho = -0.10$ ). Surprisingly, estimates indicate that affective commitment ( $\rho = 0.20$ ) and continuance commitment ( $\rho = 0.20$ ) are both positively associated with voluntary turnover. However, these results should be interpreted cautiously, as the findings are based on a small sample of primary studies. As a group, attitudinal reactions are the strongest predictors of voluntary turnover.

### **Moderator Analyses**

To explore the data further, we conducted moderator analyses on the predictor criterion “relationships”, where the smaller group contained a minimum of 25% of the number of primary studies compared to that of the larger group. This threshold ensured that the relationship estimates would be stable for each subgroup. The samples for 84% of the primary studies were comprised of nurses, and as such moderator analyses were not performed on healthcare position. Additionally, 71% of the primary studies were conducted in hospital settings. Other work environments such as clinics, nursing homes, and mental health facilities comprised the other 29%. Since none of these groups reached the 25% threshold, work environment was not included in the moderator analysis. We conducted subgroup analyses to determine whether the relationships between the predictors and the turnover variables were stable across location (i.e., Arab Vs. Non-Arab countries).

Of the 118 studies, 51 were conducted in the following countries. They contributed studies to the meta-analysis: Canada (22), Taiwan (7), Netherlands (5), Australia (4), Belgium (2), Israel (2), Japan (2), Jordan (2), China (1), Finland (1), Saudi Arabia (1), Singapore (1), and Sweden (1). The turnover intention for the organization was the only dependent variable for which sufficient data existed to conduct the moderator analysis. The results indicate that the relationship between age and the turnover intention for the organization is stable between studies done in Arab countries and non-Arab countries, as the confidence intervals overlapped. On the other hand, location did appear to be a moderator with regards to some of the other attitudinal reactions. First, the relationship between job satisfaction and turnover intentions for an organization were stronger in the Arab countries ( $\rho = -0.60$ ) than non-Arab countries ( $\rho = -0.55$ ). However, the opposite appears to be true for satisfaction with pay; this relationship was stronger for non-Arab countries ( $\rho = -0.34$ ) than Arab countries ( $\rho = -0.25$ ). Estimates indicate that affective commitment has a stronger relationship with the intent to turnover for an organization for the studies done in non-Arab countries ( $\rho = -0.59$ ) than for those in Arab

countries( $\rho = -0.46$ ). However, the data indicate the opposite for organizational commitment, with this relationship being stronger for Arab countries( $\rho = -0.57$ ) than for non-Arab countries( $\rho = -0.50$ ).

## **V. Discussion**

The purpose of the present research was three-fold. First, we were interested in determining the relative strengths of the predictors of turnover in the healthcare field in Arab Vs. non-Arab countries. Over fifteen years has passed since Irvine and Evans (1995) conducted their meta-analysis on nurses' job satisfaction, hospital resource utilization and turnover; as such, an updated quantitative analysis was past due. In addition, we were interested in identifying variables that might have been neglected in previous healthcare turnover research. Last, we wanted to test a theory-based model of turnover that used data specifically from the healthcare field to reach a better understanding of the process leading up to the decision to quit. There were several interesting findings with regards to the relative strength of predictors of turnover. First, attitudinal reactions consistently produced the strongest correlations with all the turnover criteria.

This lends support to our model based on turnover theory that proximal predictors will have a stronger impact on turnover than the more distal predictors. More specifically, job satisfaction and general organizational commitment were generally the strongest predictors for all turnover criteria. Secondly, negative role states such as job strain, health, and burnout (i.e., emotional exhaustion, depersonalization, reduced personal accomplishment) were also consistent predictors of turnover criteria. More specifically, individuals experiencing negative role states were more likely to think about quitting, have intentions to search for new jobs, actually search for new jobs, have intentions to quit their jobs, and actually follow through with the decision to quit. This finding is expected, as the burnout problem among nurses has been well documented (e.g., Perrewe et al. 2002, Poghosyan, Aiken, & Sloan 2009).

Tenure variables (i.e., organizational tenure, position tenure) were also shown to be moderate predictors of turnover criteria. These relationships appeared to be stronger for variables that were closer to the final turnover decision (e.g., intent to turnover, actual turnover). Perceived leader support was also a small-to-moderate predictor of turnover criteria. Last, examining the relative strengths of perceived job alternatives and the various turnover criteria provides support for Mobley's (1977) process model of turnover. For the most part, our data demonstrate that components of the process model that are more proximally located have stronger correlations than those that are further apart in the model. Thus, our data provide empirical evidence for the structure of the process model of turnover in the healthcare field. Our results also complement findings from other recent turnover meta-analyses from outside the healthcare population.

For instance, Zimmerman and Darnold (2009) found a  $-0.22$  correlation between job satisfaction and voluntary turnover. In the present study, a  $-0.16$  correlation was observed between these two variables. Previous work by Cooper-Hakim and Viswesvaran (2005) found a corrected correlation between general organizational commitment and turnover intentions of  $-0.57$  and a corrected correlation of  $-0.23$  between general organizational commitment and actual turnover. In the previous study, we observed corrected correlations of  $-0.54$  and  $-0.17$ , respectively, for the same relationships. Ng and Sorensen's (2008) meta-analysis examined the relationships between turnover intentions and perceived supervisor support ( $r = -0.36$ ), and turnover intentions and perceived coworker support ( $r = -0.19$ ). Our results were similar, with an observed correlation of  $-0.34$  between turnover intentions and perceived supervisor support. We observed a slightly stronger correlation ( $-0.31$ ) between perceived team support and turnover intentions, suggesting that team support may play a larger role in the decision to turnover in the healthcare field.

## **VI. Limitations And Future Research**

There also appears to be a lack of empirical studies in the healthcare field on the relationship between several job characteristics (e.g., job challenge, job complexity, job level, skill variety) and turnover criteria. In addition, future research on turnover in the healthcare field should look to include more organizational-level variables, such as organizational climate, organizational politics, and socialization tactics. Last, there appears to be a shortage of empirical work examining group and leader relations in regards to turnover. For instance, no studies from the healthcare literature were identified



that examined the relationship between leadership style or leadership behaviors and turnover. Our analyses revealed that perceived leader support had a consistent, negative relationship with turnover.

Given this finding, it would be interesting to determine whether different leadership styles produced differences in the turnover criteria. As such, future research should consider the role of leadership style in the turnover decision process. We also were unable to examine the effects of variables often expected to be of particular importance in healthcare positions, including staffing shortages, shiftwork and job schedules, and the lack of career development opportunities, due to the lack of sufficient data.

Beyond the need for more research on additional predictors of turnover, the current study revealed other gaps in the literature that should be addressed in the future. First, the majority of articles that we identified for the current study involved nurses. While nurses make up a large percentage of the healthcare population, other positions certainly exist that deserve additional research regarding turnover. Nurses are likely one of the most convenient groups to sample; however, efforts should be made to sample from different healthcare occupations to broaden our understanding of turnover in the healthcare field. Second, most of the research identified in this meta-analysis was conducted in a hospital setting. For example, people working in emergency rooms or trauma centers are likely to have vastly different work experiences than do people working in rehabilitation units or outpatient services. Identifying the driving mechanisms of turnover in the various units within a hospital will help the organization and management tailor interventions to reduce the prevalence of turnover.

## **VII. Conclusion And Practical Implications**

Based on the meta-analytic results as well as the path models, several practical implications are in order. First, it is clear from our results that job satisfaction and general organizational commitment are the strongest predictors of turnover. For the most part, people who experience dissatisfaction and are less committed to their organization are more likely to consider alternative employment as well as be more likely to voluntarily leave the organization. As such, managers need to monitor the morale and commitment of their team members. Many factors are likely to have an impact on both satisfaction and commitment levels. Role states such as ambiguity, job strain, and burnout are likely to decrease both satisfaction and commitment. Therefore, managers should make efforts to clearly define work roles for employees.

To combat burnout and job strain, employees should be exposed to training in which they are provided with resources to cope with environmental stressors that lead to strain and burnout. Other ways to prevent strain might include providing regular breaks throughout the work day for employees to escape stressful situations at work. Having an adequately staffed work group is also important, as this will help to reduce employees' stress load as a group. As network centrality was also found to be a predictor of actual turnover, managers may endeavor to establish a supportive community within units, to enable frontline workers to develop the social capital available from professional networks. Interestingly, although salary was not a significant predictor of actual turnover, satisfaction with pay was. Thus, the importance of pay may be relative and based on expectations.

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## Appendix (1)

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